The annual survey of Canadian Association of Gastroenterology (CAG) members’ educational needs was conducted via an online survey sent to 772 CAG members in March 2017. A total of 211 individuals responded to the survey, of which 197 went on to rate educational topics. Similar to previous years, endoscopy techniques, Crohn’s & Ulcerative Colitis, and Inflammatory Bowel Disease (IBD) topics were most in demand for future educational events. Other highly rated areas were: celiac disease, functional bowel disorders (IBS), GI oncology, non-IBD intestinal disorders, upper GI bleeding, nutrition, NAFLD, and chronic diarrhea.

INTRODUCTION
The purpose of the CAG needs assessment was to provide guidance to the Board, Operations Committee, and CAG Education Affairs on areas of greatest educational need. Conducting a needs assessment is a requirement for accreditation of educational events in accordance with the Royal College of Physicians and Surgeons of Canada.

METHODS
The members of Education Affairs 2017 include Drs. Robert Berger, Herbert Brill, Maria Cino, Samir Grover, Orlee Guttmann, Charles Menard, Maitreyi Raman, Connie Switzer, Catharine Walsh, Kevin Waschke, Geoff Williams, Winnie Wong, Brian Yan, Nav Saloojee, Pushpa Sathya, Nauzer Forbes, Marcel Tomaszewski, Michael Curley, Elyanne Ratcliffe, Jeff McCurdy and Steven Gruchy. A subgroup of the committee designed the needs assessment survey, which was a modified version of that used in 2016.

The needs assessment was posted online and members were requested by email to complete the simple ‘tick box’ survey. Data were compiled and analyzed at the CAG National Office.

The survey collected basic demographic information and examined interest in topics for educational events. Respondents were asked to rate their interest in 40 potential topics for educational events using a five-point scale of no interest–minor interest–neutral/not sure–some interest–very interested. The survey also explored use of CAG continuing professional development (CPD) tools.

RESULTS
A personalized email request sent to CAG members in early March drew 211 respondents of which 197 completed the full survey.

Demographics: Seventy percent were male, and regarding education, 76% held an MD or equivalent degree, followed by 26% (PhD), 23% (MSc), 19% (Bachelors) and 4% (other). Of the 164 respondents for whom the question was applicable the year of medical school graduation was before 1980 for 14%, 1980-1989 for 18%, 1990-1999 for 14%, 2000-2009 for 23%, 2010-2015 for 8% and 2005 or later for 1% (22% not applicable). For the 183 respondents for whom the question was applicable the majority were predominantly teaching hospital-based (61%), rather than being community-based with - (22%) or without (4%) hospital privileges. Not applicable (13%).
Most replies were from individuals in Ontario (36%), followed by Alberta (21%), Quebec (16%) and British Columbia (11%). Responses were distributed roughly in proportion to provincial population.

Respondents’ specialty was identified as adult gastroenterology by 51%, pediatric gastroenterology by 9%, surgery by 3% and hepatology by 1%. Basic and clinical scientists made up 17% and 2%, respectively, of respondents. Residents and fellows accounted for 12%, and “Other” roles for 4%.

Regarding where respondents spend their time, 53% identified clinical practice as their primary focus and 22% noted basic research (>50% research). Clinician-teachers (≤50 teaching), clinical research (>50%) and clinician-researchers (≤50% research) formed the next biggest groups at 8%, 6% and 5% each, respectively. Lastly was 2% spending their time with ‘other’ duties.

**Educational topics:** The percent of respondents who were ‘Very interested’ in each topic are shown in Figures 1-4 for the 40 educational topics surveyed. Consistent with past years, endoscopic techniques and therapeutics remain extremely popular, in addition to these top rated educational areas: Crohn’s & ulcerative colitis, IBD topics, celiac disease, lower functional bowel disorders (IBS), GI oncology, non-IBD intestinal disorders, upper GI bleeding, nutrition, NAFLD and chronic diarrhea (Figure 1).

When examined by various demographic splits (adult vs. pediatric gastroenterologist, basic scientists, teaching hospital vs. community hospital respondents, trainees) the most-desired topics varied somewhat (Table 1). For a basic science symposium the topics most in demand (percent very interested) were IBD Pathogenesis, genetics, etiology (58.8%), Crohn’s & ulcerative colitis (35.3%), GI oncology (32.4%), lower bowel functional disorders (IBS) (32.4%), approach to GI infections (29.4%), non-IBD intestinal disorders (29.4%) and obesity (20.6%).

**CPD Tools:** With respect to CAG CPD tools used over the last two years, the one noted to significantly increase knowledge was the CAG Consensus Guideline for *H. Pylori* (54%), followed by the Skills Enhancement for Endoscopy™ (SEE™) program (48%), CDDW™ (37%) and the CAG Consensus Guideline for IBD in Pregnancy (36%). The tools that significantly changed practice were Skills Enhancement for Endoscopy™ (SEE™) program (40%), the CAG Consensus Guideline for *H. Pylori* (31%), the CAG Consensus Guideline for IBD in Pregnancy (21%) and CDDW™ (19%).

**DISCUSSION**

Twenty-six percent of the solicited membership participated in the survey. An ongoing priority for Education Affairs is to develop innovative and easy assessment tools to encourage greater participation by members in order to accurately reflect their educational needs.

Endoscopic techniques and therapeutics (along with hands-on stations for endoscopic skills) have become the highest priority for respondents - also evidenced by the positive response to the hands-on skills session at CDDW™ 2017. These highly ranked topics are closely followed by Crohn’s Disease & ulcerative colitis, IBD, celiac disease, functional bowel disorders (IBS), GI oncology, non-IBD intestinal disorders, upper GI bleeding and nutrition.

CAG Skills Enhancement for Endoscopy™ (SEE™) program has become the CPD tool voted to most significantly change practice followed by the CAG Consensus Guidelines. CAG Education Affairs is actively working to increase the quantity and quality of educational materials and programs that members can utilize as part of their ongoing maintenance of certification activities. These findings, along with evaluations of CDDW™ 2017 and identification of unrecognized educational needs, will form the basis of the 2018 CDDW™ program.
Figure 1) The 12 most popular topics for educational events based on the percent of respondents who were “very interested” in the area (21%-42% very interested). Crohn’s Crohn’s disease; IBD inflammatory bowel disease; Dx diagnosis; IBS irritable bowel syndrome; GI gastrointestinal; NAFLD Non-alcoholic fatty liver disease

Figure 2) Educational topics in which 16%-19% of respondents were “very interested”. GI gastrointestinal; HTN hypertension
Figure 3) Educational topics in which 11%-15% of respondents were “very interested”. ERCP endoscopic retrograde cholangiopancreatography; Dx diagnosis; GI gastrointestinal; C difficile Clostridium difficile; EUS endoscopic ultrasound.

Figure 4) Educational topics in which 6%-10% of respondents were “very interested”. NSAIDs nonsteroidal anti-inflammatory drugs; MOC maintenance of certification; HCC hepatocellular carcinoma; cholangiaCA cholangiocarcinoma.
Table 1) Most popular educational topics by respondent subgroup. Crohn’s Crohn’s disease; Tx treatment; Dx diagnosis; GI gastrointestinal; IBD inflammatory bowel disease; NAFLD Non-alcoholic fatty liver disease; HTN hypertension; IBS irritable bowel syndrome; C difficile Clostridium difficile; EUS endoscopic ultrasound

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<tr>
<th>Subgroup</th>
<th>1st Choice (% very interested)</th>
<th>2nd Choice (% very interested)</th>
<th>3rd Choice (% very interested)</th>
<th>4th Choice (% very interested)</th>
<th>5th Choice (% very interested)</th>
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<tr>
<td><strong>Gastroenterologists - Adult (n=101)</strong></td>
<td>Endoscopic techniques/ therapeutics (53.5%)</td>
<td>Hands-on stations for endoscopic skills (39.6%)</td>
<td>Crohn’s &amp; Ulcerative Colitis: Therapeutics, Tx of complications, fistulas etc. (37.6%)</td>
<td>Celiac disease: Dx, management (33.7%)</td>
<td>Upper GI Bleeding (28.7%)</td>
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<td><strong>Gastroenterologists - Pediatric (n=19)</strong></td>
<td>Pediatric Liver Diseases (63.2%)</td>
<td>Nutrition: management; Hands-on stations for endoscopic skills; Endoscopic techniques &amp; therapeutics (47.4%)</td>
<td>Non reflux esophageal disorders (42.1%)</td>
<td>Malabsorption: Dx &amp; management; Nutrition; assessment in specific disease; Crohn’s &amp; Ulcerative Colitis; Therapeutics, Tx of complications, fistulas etc. (36.8%)</td>
<td>Celiac Disease: Dx, management, complications, new therapies; Autoimmune liver diseases; Chronic diarrhea: Dx &amp; management; IBD: Pathogenesis, genetics, etiology (31.6%)</td>
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<td><strong>Teaching hospital based (n=117)</strong></td>
<td>Crohn's &amp; Ulcerative Colitis: therapeutics, Tx of complications, fistulas etc; Endoscopic techniques/ therapeutics (37.6%)</td>
<td>IBD: Pathogenesis, genetics, etiology (33.3%)</td>
<td>Hands-on stations for endoscopic skills (30.8%)</td>
<td>Celiac disease: Dx, management (28.2%)</td>
<td>Nutrition: management (25.6%)</td>
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<td><strong>Community hospital Based (n=45)</strong></td>
<td>Endoscopic techniques &amp; therapeutics (66.7%)</td>
<td>Hands-on stations for endoscopic skills (53.3%)</td>
<td>Celiac disease: Dx, management, complications, new therapies; Crohn’s &amp; Ulcerative Colitis: Therapeutics, Tx of complications, fistulas etc (37.8%)</td>
<td>Upper GI bleeding; Chronic diarrhea: Dx &amp; management (31.1%)</td>
<td>Anorectal disease; NAFLD; Portal HTN and cirrhosis (26.7%)</td>
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<td><strong>Basic Scientist (n=34)</strong></td>
<td>IBD Pathogenesis, genetics, etiology (58.8%)</td>
<td>Crohn’s &amp; Ulcerative Colitis: Therapeutics, Tx of complications, fistulas etc. (35.3%)</td>
<td>GI Oncology; Lower functional bowel disorders (IBS) (32.4%)</td>
<td>Approach to GI infections (C.difficile &amp; other pathogens); Non-IBD intestinal disorders (microscopic colitis etc) (29.4%)</td>
<td>Obesity (20.6%)</td>
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<td><strong>Trainees (n=22)</strong></td>
<td>Crohn's &amp; Ulcerative Colitis: Therapeutics, Tx of complications, fistulas etc. (63.6%)</td>
<td>IBD: Pathogenesis, genetics, etiology (45.5%)</td>
<td>Celiac disease: Dx, management, complications, new therapies; Hands-on stations for endoscopic skills; Endoscopic techniques &amp; therapeutics: management (polypectomy) (40.9%)</td>
<td>GI Oncology (36.4%)</td>
<td>Nutrition: assessment in specific disease states; Nutrition: management; Obesity; Endoscopy: EUS (31.8%)</td>
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